

## WHAT IS CLAIMED IS:

- 5 *Sub 1* An interrogation system containing a transmitting device for the interrogation of a responder device, and receiving means, wherein the transmitting device is designed in such a way that modulated and/or coded electromagnetic radiation can be transmitted, that the transmitting device is located inside or outside of the transmitting device, and wherein the responder device has sensor means for receiving this radiation and for converting it into electrical signals, an evaluation unit for processing the electrical signals, as well as
- 10 transmitting means in order to return, in accordance with a decision made by the evaluation unit, a reply signal to the receiving means, characterized in that the transmitting device contains a control circuit and an antenna which are designed in such a way that individual electromagnetic pulses, or short bursts of pulses, can be generated in the giga-frequency range, which are radiated by the antenna in a chronologically modulated and directional
- 15 manner.
2. The interrogation system in accordance with claim 1, characterized in that the control circuit and the antenna are placed into a housing, which is designed for being mounted on a weapon.
- 20
3. The interrogation system in accordance with claim 1 or 2, characterized in that the antenna is integrated into the control circuit.
4. The interrogation system in accordance with one of claims 1 to 3, characterized in that the
- 25 frequency of the pulses transmitted by the transmitting device has a value, by means of which, using the antenna, a strongly directional radiating characteristic with an angle of the radiated lobe below 50 mrad, preferably 30 mrad, is achieved.
5. The interrogation system in accordance with one of claims 1 to 4, characterized in
- 30 that the modulation frequency of the transmitting device lies in the range between 10 and 1000 GHz, or 100 to 1000 GHz.
6. The interrogation system in accordance with one of claims 1 to 5, characterized in that the sensor means of the responder device are designed to transmit response signals,
- 35 which can be received by the transmitting device in order to also make possible a distance measurement between the transmitting device and the responder device in a central unit of the transmitting device.

8. The interrogation system in accordance with one of claims 1 to 7, characterized in that it can be integrated into a weapon, preferably a portable firearm, or can be mounted on such.

- an interrogation system containing a transmitting device for the interrogation of a responder device and receiving means, wherein the transmitting device is designed in such a way that modulated and/or coded electromagnetic radiation can be transmitted, and with

- a responder device, which has sensor means for receiving this radiation and for converting it into electrical signals, an evaluation unit for processing the electrical signals, as well as transmitting means in order to return, in accordance with a decision made by the evaluation unit, a reply signal to the receiving means,

characterized in that the transmitting device contains a control circuit and an antenna which are designed in such a way that individual electromagnetic pulses, or short bursts of pulses, can be generated in the giga-frequency range, which are radiated by the antenna chronologically modulated and directionally.